

The California Hydrogen Highway Network

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October 28
November 1, 2 & 3, 2005



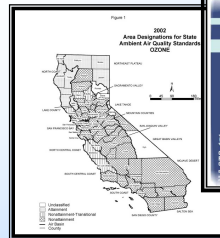
Overview

- California's Challenges
- Why Hydrogen?
- The California Hydrogen Highway Blueprint Plan
- Senate Bill 76
- Conclusions



Why Hydrogen?

- **Environment**
 - Cars-- large source of pollution
 - Petroleum dependence-- multi-media pollution impacts
- **Health**
 - 1.7 million respiratory attacks and 6,500 deaths attributed to air pollution annually in California
- **Economy**
 - Sustainable fuel supply
 - New technology development
 - Innovation in transportation
- **Energy**
 - Diversity of feed stocks
 - Distributed generation
 - Renewable energy use



California Hydrogen Highway Net Blueprint Plan

- Executive Order S-7-04 formed the Ca H2 Net
- A Blueprint Plan was developed with extensive input from over 200 experts and resulted in:
 - Volume I - Report to the Governor and Legislature from the Executive Order Team
 - Volume II - Summary of the work of the Advisory Panel and Topic Teams
 - Five Topic Team Reports:
 - Societal Benefits
 - Rollout Strategy
 - Economy
 - Implementation
 - Public Education



The CaH2Net's mission is...

- ... to assure that hydrogen infrastructure is in place to enable fuel cells and other hydrogen technologies to be used by consumers as those technologies reach commercial readiness.
- The CA H2 Net is a key part of California's strategy to achieve the State's vision of a secure energy future that simultaneously addresses our environmental, public health and economic challenges working in partnership with other components of the State's programs to advance energy efficiency and renewable energy.



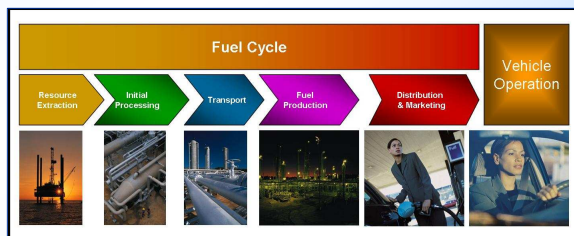
Senate Bill No. 76

- Governor signed SB 76 on July 21, 2005
- Provides \$6.5 million for state-sponsored hydrogen demonstration projects until January 1, 2007
 - *Establishment of up to 3 hydrogen fueling station demonstration projects*
 - *State lease and purchase of hydrogen vehicles*
- Hydrogen fuel specifications

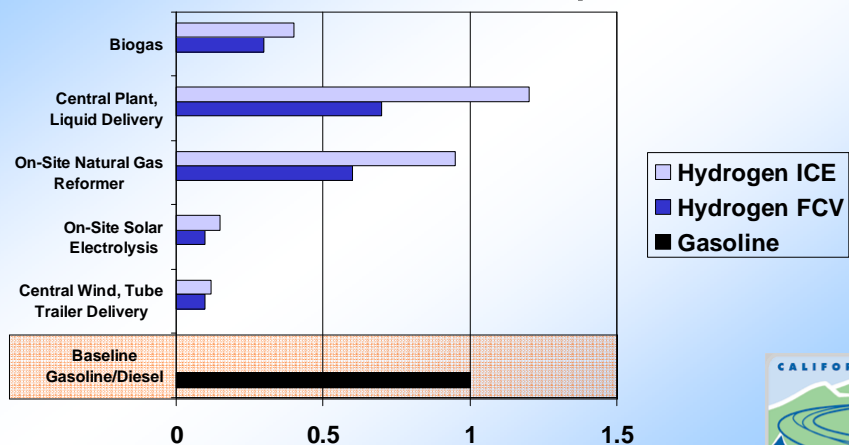


Environmental Goals SB 76

- 30 % reduction in GHG
- 33 % production from new renewable sources
- No increase in toxic or criteria pollutants
- Use of renewable hydrogen generation or energy station concept with electricity production



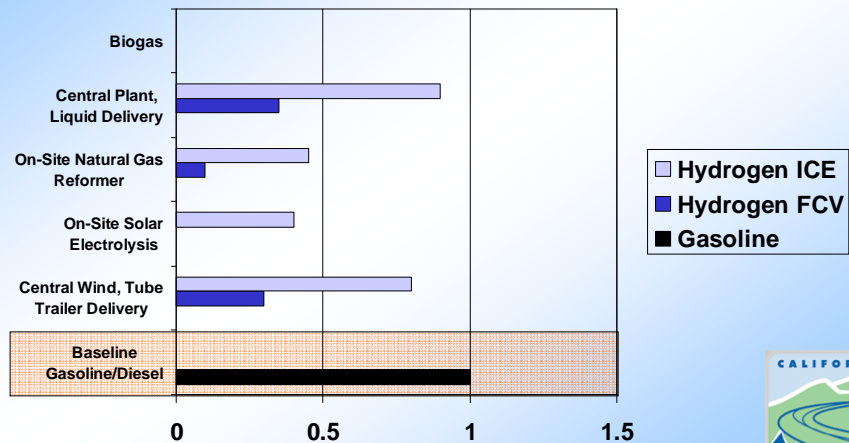
Source to Wheel Greenhouse Gas Emissions Comparison



Source: Societal Benefits Topic Team Report – California 2010 Hydrogen Highway Network, March 2005



Source to Wheel Criteria Pollutants Rating Comparison



Source: Societal Benefits Topic Team Report – California 2010 Hydrogen Highway Network, March 2005



Environmental Justice SB 76

- Include buffer zones with sensitive receptors (schools, hospitals residences, etc.)
- Mitigate adverse impacts to affected neighborhoods
- Meet with the Cal/EPA Environmental Justice Advisory Committee



Reporting Requirements

- Reports to the Legislature every six months
- Report by December 31, 2006
 - Activity in other states
 - Siting criteria and actual site selection
 - Environmental impacts to communities
 - Business activity impacts



Items to Follow

- Station siting and location criteria
- Vehicle procurement
 - Lease 12 vehicles
 - Purchase of 2 hydrogen ICE shuttle buses
- Public presentations
- Discussion period



Our Goal Is Clean Air Everyday

Controlling emissions from today's technologies...



working towards tomorrow's zero emission technologies

